NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Titanium Metals Corporation
8000 West Lake Mead Blvd.
Henderson, Clark County, NV 89015

Permit Number: NEV2000510

General:

Titanium Metals Corporation has applied for modification of Nevada Water Pollution Control Permit NEV2000510. This permit was originally intended to incorporate a process wastewater treatment system called the Zero Discharge Project (ZDP), and was to meet the State of Nevada zero-discharge standard of performance. The modification of this permit has been requested to incorporate a new plant design, in which process waste streams from the production of Titanium metal and Titanium Tetrachloride ($TiCL_4$) will be treated by neutralization, precipitation, clarification, and filtration. The process waste streams that will be treated in the new plant are the Spent Caustic stream, the Continuous Sludge Dryer (CSD) stream, and the Other Process Water (OPW) stream. The clarified liquid from the new treatment scheme will then be treated by reverse osmosis (R/O) to achieve a high-quality effluent that is to be discharged to the Las Vegas Wash, and is managed and limited under National Pollution Discharge Elimination System (NPDES) permit NV0000060. The solid and R/O concentrate streams produced in the new treatment scheme will be managed onsite under the modified permit NEV2000510, which remains a zero-discharge permit. The R/O concentrate stream produced in the reverse osmosis treatment step (0.049 MGD) will be contained in two HDPE-lined, leak-detected ponds, HP-1 and HP-6, and will be evaporated under ambient conditions. The filtered solids produced (approximately 10 tons/day) will be transported in a leak-proof container, held within double containment, and will be shipped to an approved disposal or treatment site. This project will eliminate the need for the series of large evaporation ponds currently in use for process waste disposal. All of the Wastewater Neutralization Plant (WNP) facilities will be located within the boundaries of the Timet property address above.

The two evaporation ponds, HP-1 and HP-6, have the capacity of 2.2 million and 1.4 million cubic feet, respectively. It is anticipated that the two ponds have an operational life of approximately 10 years, based on average annual evaporation rates, before removal of evaporated salts is required.

In the application for permit modification, the Permittee identified two possible scenarios in which the WNP would be bypassed. In the first scenario, the OPW stream would be routed around the WNP and discharged to the evaporation ponds after neutralization with caustic material in the HP-1 discharge vault. This "upset" condition would result in daily flow of 129,600 gallons per day (0.13 MGD). In the second scenario, any or all of the process streams would be diverted to the ponds after neutralization within the plant. This would result in both liquids and precipitated solids being discharged to the ponds at a rate of up to 207,360 gallons per day. Either of these upset conditions may significantly decrease the operational life of the ponds, due to the increased flow rates and the higher rates of solids accumulation. The permit includes monitoring and reporting of any solids removed from the ponds.

Receiving Water Characteristics:

This is a zero discharge permit. However, should a discharge occur, the potential receiving water is groundwater, the surface of which is about 33 to 43 feet below ground surface. Groundwater monitoring was initiated previously in response to historical industrial impacts at this site. The Nevada Division of Environmental Protection Bureau of Corrective Actions administers on-going impacted groundwater related activities at the site. Selected existing wells will be utilized to

monitor relative groundwater quality conditions up-gradient and down-gradient of the WNP.

Description of the Location of the Facility:
Titanium Metals Corporation, 8000 West Lake Mead Blvd., Henderson, Clark County, Nevada. This facility is located in Section 12, Township 22 South, Range 62 East, MDB&M.

Flow:
For the purposes of assigning a fee category, the Division used the design capacity of the system. The design capacity of the facility is 0.208 MGD.

Procedures for Public Comment:
The Notice of the Division's intent to issue a permit authorizing the facility to operate in such a way as to meet zero discharge standards of performance, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. **All comments must be received by NDEP by 5:00 pm, April 28, 2005.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Effluent Limitations and Monitoring Requirements:

Effluent and Pond Monitoring
During the initial six months of operation for components of the WNP facility, all monitoring specified in Table I.A shall be done once each month. Subsequent to the first six months of operation, the quarterly sampling and reporting protocol shall apply. All monitoring results must be submitted to the Compliance Coordinator on the appropriate Discharge Monitoring Report (DMR) forms.

In the event of the occurrence of either upset condition, samples of the upset flow discharge to the ponds shall be taken and sampled in accordance with the requirements in Table I.A. For each upset occurrence, a report detailing the reasons for, volume and duration of the upset, the corrective actions taken to avoid future upset, and the monitoring results shall be submitted with the quarterly monitoring report to the NDEP Compliance Coordinator at the address listed in the Permit.

Leak detection sumps for evaporation ponds HP-1 and HP-6 shall be inspected bi-weekly for accumulation of fluid. Should fluid be detected in either sump, it must be evacuated, the volume removed recorded, and a sample collected for analysis in accordance with the requirements in Table I.A.1. If it is determined that the accumulated fluid is from leakage of WNP waste water, the pond must immediately be taken out of service until the leak is located and repaired.

Table I.A.1.
Wastewater Neutralization Plant Limitations and Monitoring Requirements

PARAMETER	LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
Daily Maximum Process Flow (MGD)	0.208	Continuous	Calculate
Leak Detection Sumps[1] Pond HP-1 Pond HP-6	Monitor & Report Monitor & Report	Bi-Weekly[2] Bi-Weekly[2]	Visual Inspection; Evacuation
Sulfate (mg/L)	Monitor & Report	Quarterly[3]	Discrete
Chloride (mg/L)	Monitor & Report	Quarterly[3]	Discrete
Total Dissolved Solids (mg/L)	Monitor & Report	Quarterly[3]	Discrete
Nitrate as N (mg/L)	Monitor & Report	Quarterly[3]	Discrete
Total Nitrogen (mg/L)	Monitor & Report	Quarterly[3]	Discrete
pH (Standard Units)	Monitor & Report	Quarterly[3]	Discrete
Aluminum (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Arsenic (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Barium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Cadmium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Chromium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Copper (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Lead (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Manganese (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Molybdenum (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Nickel (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Selenium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Silver (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Strontium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Titanium (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete
Zinc (mg/L)	Monitor & Report	Semi-Annually[4]	Discrete

[1] Leak detection sumps for evaporation ponds HP-1 and HP-6 shall be inspected bi-weekly for accumulation of fluid.

Should fluid be detected in either sump, it must be evacuated, the volume removed recorded, and a sample collected for analysis in accordance with the parameters listed in Table I.A. If it is determined that the accumulated fluid is from leakage of WNP waste water, the pond must immediately be taken out of service until the source of the leakage is identified and repaired.

(2) Bi-weekly sump inspection logs shall be submitted with each quarterly monitoring report.

(3) During the initial six months of operation for components of the WNP facility, all monitoring of WNP plant discharge specified in Table I.A shall be done once each month. Subsequent to the first six months of operation, the quarterly sampling and reporting protocol shall apply.

(4) During the initial six months of operation for components of the WNP facility, all monitoring of WNP plant discharge specified in Table I.A shall be done once each month. Subsequent to the first six months of operation, the semi-annual sampling and reporting protocol shall apply.

Groundwater Monitoring Wells

Groundwater monitoring for the WNP is required in six wells; specifically, CLD1-R, CLD3-R, CLD4-R, J2U2, J2D4 and MW-6R. Results of groundwater monitoring shall be submitted to the NDEP Compliance Coordinator on appropriate Discharge Monitoring Report (DMR) Forms. Groundwater monitoring and reporting for the listed parameters is to begin upon permit issuance to establish baseline concentrations. Monitored constituents include:

Table I.A.2.
Groundwater Monitoring Limitations and Monitoring Requirements

PARAMETER	SAMPLE MAX	FREQUENCY	SAMPLE TYPE
Depth to Groundwater (feet)	Monitor & Report	Quarterly	Field Measurement
Groundwater Elevation (feet AMSL)	Monitor & Report	Quarterly	Calculate
Nitrate as N (mg/L)	Monitor & Report	Quarterly	Discrete
Total Nitrogen (mg/L)	Monitor & Report	Quarterly	Discrete
Chromium (mg/L)	Monitor & Report	Quarterly	Discrete
Chloride (mg/L)	Monitor & Report	Quarterly	Discrete
Total Dissolved Solids (mg/L)	Monitor & Report	Quarterly	Discrete
pH (Standard Units)	Monitor & Report	Quarterly	Discrete

Solids Storage Area

The area in which the filtered solids are contained shall be inspected weekly for integrity, and any signs of leakage from the containers shall immediately be repaired, and any adjacent impacted soil removed to containment. Any accumulated storm water shall be evacuated and either discharged directly to the evaporation ponds or to the WNP for treatment. A bound log of weekly inspections shall be maintained onsite.

Schedule of Compliance:

The Permittee shall implement and comply with the provisions of the schedule of compliance of the permit as they apply, after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance.

a. The permittee shall achieve compliance with the limitations upon issuance of the permit.

b. **Within 60 days of completion of the WNP facility**, the Permittee shall submit an Operations and Maintenance Manual for the facility. This O&M Manual will be subject to review and approval by the Division.

Special Conditions:
Numerous special conditions are in place within this permit. Please refer to the permit for further details.

Rationale for Permit Requirements:
Monitoring is required to verify that the facility meets zero discharge standards of performance.

Proposed Determination:
The Division has made the tentative determination to modify the permit for the remainder of the current the five-year permit period. The modified permit shall expire on June 12, 2007.

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